

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for evaluating whether a material will allow modified living bacteria to pass through the material or around the material or into the material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the material being evaluated;
- and
- c) detecting whether the first signal is present on a second side of the material or within the material;

where absence of the first signal on the second side of the material or within the material indicates that the modified living bacteria have not passed through or around the material and where presence of the first signal on the second side of the material or within the material indicates that the modified living bacteria have passed through or around the material;  
and

where the material is non-living.

2. (previously amended) The method of claim 1, additionally comprising quantifying the amount of modified living bacteria that will pass through the material or into the material by quantifying the amount of the first signal on the second side of the material;

where increasing amounts of the first signal on the second side of the material or within the material indicates increasing amounts of modified living bacteria that will pass through the material or into the material.

3. (previously amended) The method of claim 1, where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally comprises detecting whether the second signal is present on the second side of the material or within the material;

where absence of the second signal on the second side of the material or within the material indicates that the modified living bacteria have not passed through or around the material and where presence of the second signal on the second side of the material or within the material indicates that the modified living bacteria have passed through or around the material.

4. (original) The method of claim 1, where the first signal is light emission in the visible spectrum.

5. (original) The method of claim 3, where the second signal is light emission in the visible spectrum.

6. (previously amended) The method of claim 1, where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

7. (previously amended) The method of claim 1, where the modified living bacteria are modified to incorporate a functional luciferase.

8. (previously amended) The method of claim 1, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

9. (previously amended) The method of claim 1, where placing the modified living bacteria on a first side of the material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the material or within the material comprises detecting the first signal in the test medium or within the material.

10. (previously amended) The method of claim 3, where placing the modified living bacteria on a first side of the material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the material or within the material comprises detecting the first signal in the test medium or within the material.

11. (previously amended) The method of claim 1, where the modified living bacteria provided are additionally modified to be grown selectively.

12. (previously amended) The method of claim 11, where the modified living bacteria grow selectively due to antibiotic resistance.

13. through 22. (canceled)

23. (new) A method for evaluating whether a material will allow modified living bacteria to pass through the material or around the material or into the material comprising:

- a) providing living bacteria which are modified to produce a first detectable signal;
- b) placing the modified living bacteria on a first side of the material being evaluated;
- and

c) detecting whether the first signal is present on a second side of the material or within the material;

where absence of the first signal on the second side of the material or within the material indicates that the modified living bacteria have not passed through or around the material and where presence of the first signal on the second side of the material or within the material indicates that the modified living bacteria have passed through or around the material;

where the modified living bacteria are modified to produce a second detectable signal, and where the method additionally comprises detecting whether the second signal is present on the second side of the material or within the material;

where absence of the second signal on the second side of the material or within the material indicates that the modified living bacteria have not passed through or around the material and where presence of the second signal on the second side of the material or within the material indicates that the modified living bacteria have passed through or around the material;

where placing the modified living bacteria on a first side of the material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the material or within the material comprises detecting the first signal in the test medium or within the material.

24. (new) The method of claim 23, additionally comprising quantifying the amount of modified living bacteria that will pass through the material or into the material by quantifying the amount of the first signal on the second side of the material;

where increasing amounts of the first signal on the second side of the material or within the material indicates increasing amounts of modified living bacteria that will pass through the material or into the material.

25. (new) The method of claim 23, where the first signal is light emission in the visible spectrum.

26. (new) The method of claim 23, where the second signal is light emission in the visible spectrum.

27. (new) The method of claim 23, where the modified living bacteria are modified to incorporate a functional green fluorescent protein.

28. (new) The method of claim 23, where the modified living bacteria are modified to incorporate a functional luciferase.

29. (new) The method of claim 23, where the modified living bacteria are modified to incorporate both a functional green fluorescent protein and a functional luciferase.

30. (new) The method of claim 23, where placing the modified living bacteria on a first side of the material being evaluated comprises placing the modified living bacteria in the center of a hollowed out, extracted natural tooth where the root end of the tooth is sealed with the material, and then placing the root end of the tooth in a test medium; and

where detecting whether the first signal is present on a second side of the material or within the material comprises detecting the first signal in the test medium or within the material.

31. (new) The method of claim 23, where the modified living bacteria provided are additionally modified to be grown selectively.

32. (new) The method of claim 31, where the modified living bacteria grow selectively due to antibiotic resistance.